

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method of selecting at least one routing path between an access node and at least one of a plurality of gateways comprising:
 - at least one gateway originating and simultaneously broadcasting beacons from a plurality of radios over a plurality of channels, each channel different from other of the plurality of channels, at least one radio broadcasting the beacons over a corresponding one of the plurality of channels, the beacons being broadcast over each of the plurality of channels at a predetermined rate;
 - the access node simultaneously receiving over a plurality of channels with a plurality of access node radios, at least one access node radio corresponding with each of the plurality of channels, beacons from at least one upstream access node or gateway, the beacons providing information of selected upstream paths between each of the upstream access nodes and the plurality of gateways; and
 - the access node selecting a routing path between the access node and at least one of the plurality of gateways, based on a persistence of successfully received beacons, the selected routing path including multiple different channels;
 - the access node simultaneously re-broadcasting beacons with the plurality of access node radios, the re-broadcast beacons corresponding to the selected routing path, over each of the plurality of channels, the rebroadcast beacons modified by the access node to include information of the selected routing path.
2. (Previously Presented) The method of claim 1, wherein the plurality of channels comprises transmission channels according to at least two of 802.11(a), 802.11(b), 802.11(g), 802.11(n) transmission protocols.

3. (Canceled)
4. (Previously Presented) The method of claim 1, wherein the selection criteria is additionally based upon an information throughput of the routing paths.
5. (Previously Presented) The method of claim 1, wherein the selection criteria is additionally based upon a number of hops of the routing paths.
6. (Canceled)
7. (Canceled)
8. (Canceled)
9. (Previously Presented) The method of claim 1, wherein beacons that are successfully received by the upstream access nodes are rebroadcast by the upstream access nodes over multiple different channels after the beacons have been modified to include selected upstream routing information of the upstream access nodes.
10. (Cancel)
11. (Previously Presented) The method of claim 1, wherein selected upstream paths between each upstream access node and upstream gateways includes a combination of paths, over multiple different channels, and upstream paths are selected based on a persistence of successfully received broadcast and rebroadcast beacons.

12. (Original) The method of claim 1, wherein selected upstream paths between each upstream access node and upstream gateways are selected based upon path quality.
13. (Original) The method of claim 12, wherein the path quality is determined by an information throughput of the upstream paths.
14. (Original) The method of claim 12, wherein the path quality is determined by a number of hops included within the upstream paths.
15. (Previously Presented) The method of claim 1, further comprising the access node transmitting a modified beacon over a plurality of channels, the modified beacon including the optimal set of routing paths between the access node and the at least one upstream gateway.
16. (Original) The method of claim 1, further comprising:
 - sending a reverse beacon to the gateway; and
 - constructing a client tree in the gateway, wherein the gateway has at least one path including multiple channels to all clients.
17. (Cancel)
18. (Cancel)
19. (Cancel)
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31. (Cancel)

32. (Cancel)

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35. (Cancel)

36. (Cancel)

37. (Cancel)

38. (Cancel)

39. (Cancel)